March 13, 2002

MODIS sensor Working Group (MsWG) Summary

Attendance: Bill Barnes, Stuart Biggar, Vincent Chiang, Roger Drake, Wayne Esaias, Bob Evans, Jim Feldman, Bruce Guenther, Chris Moeller, Gary Toller, Jack Xiong, Eric Vermote, Jim Young, Joe Esposito

---

Scheduled Items

Item 1. ST Input for Data Reprocess (Final Call for Potential Changes)

JX) Final call for changes to the L1B code.

EV) I would like to discuss the L1B code delivery in regards to Xtalk corrections. We can speak offline about this.

JX) MCST is preparing lookup tables for Miami.
MCST is placing B5 to B26 Xtalk into L1B code.
The new L1B code and LUTs will be sent to both Miami and the DAAC on March 27, 2002.

Item 2. MCST b1 trending

JX) We have been trending the Aside gain for the TEB. Some noisy detectors jump around (B21), see charts on last page for B20-B25. Other TEB look similar, B35 is noisy but this was previously identified.
Long term trending also looks good

Item 3. MCST PC a0 = 0 vs. a0 <> 0

JX) For the PC bands get temperature at low values
Propose forcing $a_0 = 0$ then get a_1 and a_2.
Determined values of a_0 and a_2 and apply to the data. This is depicted in the PDF plots (page 1) for bands 33-36. The left most two columns are near the Aside to Bside change, day 2000305, and should be ignored due to the instability of the bands near the electronics side change (no settling time). The right two columns depict a rather broad range of temperature.

RD) Didn't we get pre-launch Bside test coefficients, a_0 and a_2?

JX) The Bside data was not adequate to determine the coefficients (too little data).

RD) Pre-launch data is from 190°K to more than 300°K. Our plan was to use the pre-launch a_0 and a_2 and to fit the linear (a_1) term on-orbit. Do the uncertainties for a_0 and a_2 overlap the value 0 and the determined a_2?

JX) Aside with fixed a0 and a2 on-orbit is different than for pre-launch. The temperature difference has a crossing point. We can force a0 = 0. This is depicted in the second page of plots. The temperature spread is quite small,

BB) What about B31 and B32

JX) The data is very low, even for clouds. Setting $a_0 = 0$ makes the temperature more uniform and much more linear.

RD) Fixing $a_0 = 0$ does not bother me.

CM) What about the optical leak offset in the PC bands?

JX) The correction is taken care of in the data analysis. The change in optical Xtalk is small. Use the data and get similar a_2 for all detectors.
CM) What about bands 27 and 28.
JX) For B27 gain is bothersome, it changes per detector. B27 and B28 have the largest a_2 terms.
RD) Not surprised by this due to calibrating at 270°K with real data actually near 220°K.
BB) a_0 could be tweaked detector by detector to align them.
JX) MCST has not planned to do that. $a_0 = 0$ is the best we can do.
BB) The bottom line is this is worth doing for L1B.
RD) We have trending plots of a_1, we should also look at trending of a_2.
BB) Chris, do you agree with setting $a_0 = 0$.
CM) I don't have the charts. I will look at them later and reply then.

Around the Table

Participant: Bob Evans – Have the FM1 results for polarization and out-of-band data been sent?
JX) MCST will send L1B code and LUTs to Miami on March 27, 2002.
Action: send out-of-band RSR data and polarization results to Miami and CM.
BB) Don't give the code to direct broadcast until Miami signs off on it.
RD) Interested in receiving a write-up on MCST analysis of FM1 polarization
JX) Will send the memo later. Our results are consistent with your results.

Participant: Roger Drake – FM1 Update
Last system test is completed. S/C has several issues (another instrument blew out some fuses). Star tracker problems (stray light concerns), battery cells may be problematic, problems with launch shock load, etc. These are serious concerns but no launch date slip yet. Jay Newman will be looking at blanket shrapnel that can harm the cold shield.
JY) Have you worked on the SD data?
JX) Data is ordered. We will send 7 data sets, 2 months apart over one year period.
Action: Complete data processing and send to Jim Young.
RD) We will be doing a final checkout with final scan mirror cleaning. Next week final cleaning of the SD/SDSM cavity will occur.
There is a restraint bracket in the stray light exclusion zone. Also some cabling is in the exclusion zone. Addressing this with Lochheed-Martin, to tie down the cabling and bracket.

Participant: Stuart Biggar – There seems to be two versions of Thuillier 2002. Which is correct?
JX) Joe and Bob Barnes have received the new solar spectrum directly from Thuillier. We will send our copy to you for comparison.
Action: Forward Thuillier's message to Stuart and Howard.

Participant: Eric Vermote –Wants later L1B delivery for Land than March 27th.